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PRIMITIVE HISTORY IN PRIMARY GROUPS OF THE LABORATORY SCHOOL.

I.

SINCE Froebel's development of his fundamental ideas of the use of occupations and plays in the education of little children, there has been little or no systematic attempt to extend the use of his main idea with children of more than five or six years old. The material used in the education of children has been of a miscellaneous, sporadic nature, the selection dependent largely upon the individual interests of the teacher and children. The aim has been, up to the last decade at least, the acquirement of the tools—reading, writing, and arithmetic. Observation of the child's natural interests has brought about the utilization of many of the spontaneous activities of children. The present use of Indian life is an illustration of change due to this outside influence. This has been helped, perhaps, by the convenience to the teacher of Longfellow's literary expression of this life in *Hiawatha*. The adoption of this material has been rather general. In other cases the introduction of handwork in its various forms has suggested to intelligent teachers the use of the social background of such typical occupations as that of the carpenter, lumberman, and miner. The problem undertaken may be stated as follows: to use as a basis for school work the development of primitive society through the evolution of occupations, from the point of view of discovery and invention, in such a way as constantly to utilize and enrich the child's own daily experience of occupations in modern society.

The secondary reason for selecting this material is that only in this way—that is, through the use by the child of his experience—can he become conscious of that experience, and rationalize what otherwise would be in danger of becoming a very complex and confused succession of impressions. As has often been stated, the modern city child, and even the country child, no longer comes in contact with either things or society in the

making. He is placed in the midst of most complex material and social conditions, and while of course the natural tendency of mind enables him to select and use certain phases of this complexity of life, yet, as in all education, it would seem possible, by selection and organization of typical activities in their simpler phases, to assist him in getting an intelligent understanding of what goes on about him. Unless he does so amalgamate this material furnished by primitive life and occupations with his daily experience, it is obvious that the dragging back to simpler conditions will be a forced and unnatural way to approach the child. The same general reasons govern the selection of material for children in any year of the first period (ages from four to eight), characterized as the period of direct activity, and apply, with some modification, to the special year in school selected for this experiment. The year selected will correspond roughly to the second grade in the public school, the age of the children varying from six and one-half to eight. The work has been repeated during five years with five groups of children, the groups varying in number from eight to twelve.

While the child at this age is still absorbed in the activity he is carrying forward, it is possible to make the consciousness of the end of that activity more definite and distinct from the process than in the preceding year. With a dawning consciousness of interest in understanding the occupations of the people about him, he is ready to begin to initiate conditions for himself, and to meet the kind of simple problem occurring in primitive existence in supplying the chief needs of food, shelter, and clothing. In the years preceding this he has been satisfied to do what other people are doing, largely from an interest in the persons he is imitating. He has been entirely absorbed in the sense of power gained in carrying out processes whose ends are very familiar and direct, especially if the interest is made continuous by the manipulation of new material. For example, in cooking, the chief concern is in the preparation of food to be served as a luncheon; yet his interest in the cooking itself as a mere activity is so great that he would be satisfied simply to cook, if it could be thought wise for other reasons to separate the process from

its social end; whereas in this next year he turns his attention to the learning how to carry on each process involved, and carries over what he has gained at school in work by himself at home, where the conditions are necessarily more complex than at school. At this age he would find it stupid to carry much farther processes by mere imitation through his desire to do what others do, and demands work in which he feels himself to be more the originator and manipulator of conditions. Many people have urged that the child would come more naturally to his understanding of society if the material used for the school work were taken directly from the modern conditions about him. If the work that he did and the problems he met were selected and simplified from among those met, for example, in the construction of a modern house, such as the one in which he lives, he would be employing the most direct and natural method of bringing his present into consciousness. Aside from the fact that what the child needs in order to become conscious of the familiar is not more of that same familiar, but some use of it under new conditions, most modern occupations, as they come in contact with the child, do so only in isolated phases of such complicated form that to use them *in toto* would simply bewilder and confuse the child. But given the principle of the main processes involved in each occupation through his own activities (the only way in which he can really attain the experience), he can, for example, look at the process involved in making the iron or steel tool he is using with interest and understanding. The Illinois Steel Works are simply doing in a larger way, and with a tremendous efficiency which he appreciates, what he has attempted in his lead-casting and molding. Another element which makes initiation in experimentation a possible factor through this choice of primitive social occupations is that the simplification of conditions makes it possible to have the child's activities depend directly on the nature of the materials involved. The complications resulting from custom in certain conventional matters of procedure are swept away through this return to primitive conditions, and the child proceeds freely without needless let or hindrance. He makes his clay dish with regard to

the nature of the clay as well as the purpose and the kind of material it is to hold. It has been interesting at times to see the struggle between the impulse to imitate dishes he has seen all his life, which for various complicated reasons have certain forms and sizes, and the motive with which he started out, *e. g.*, to make a jar for storing water or grain. It is just because this adaptation to use is so direct and so simple in such primitive tools and processes, as in the making of the water-jar, that it is possible to make the child responsible both in initiation and in result. The factor of the unknown and the unknowable is not present; he knows that he has all the material and much more knowledge than the primitive woman who first undertook the making, and tastes the first pleasure of discovery when he has solved the problem.

The variety afforded by the number of occupations necessarily a part of the simplest existence, involved only in their beginnings, insures contact with all kinds of material, without demanding that finish in either process or result which is impossible to the child of this age. The essential thing is to secure the attitude of initiation and discovery along with the conscious use of this very rich experience of materials and people. As will be stated more fully later, the special opportunities given by contact with crude materials afford perhaps the only way in which the child can attain confidence in himself. He knows that he could not possibly produce any of the tools, utensils, or modern products which he constantly employs, but he can be satisfied with his attempt at the primitive tool or utensil. Having once met conditions successfully and worked with materials from this point of view, it has been made evident in the course of experience that he does apply this knowledge and method in understanding any modern implement or tool. It may be necessary, perhaps, here to add that along with this primitive occupational work at least two lines of work are carried on as a part of the school experience, which involve the use of modern equipment and where the child can apply this intelligent method in solving problems under modern conditions. In his cooking and carpentry work he works with all modern conveniences. He cooks

with gas, which he lights with matches, and applies heat in the various ways made possible by ovens, double boilers, steamers, as well as the more primitive broiling over coals and boiling in water heated by hot stones. He cuts his branches with a modern saw and shaves his wood with the steel edge of a knife or plane, with much more appreciation of the effect he produces, because of the contrast with the jagged edge of the sharpest broken stone, and the ineffectiveness of the finest polished stone ax or scraper of the primitive peoples he is playing.

His materials, such as his lumber, appeal to him as the end product of a long series of occupations, which he has summed up when, for example, he cut his branch from the tree and removed the bark before using it as a spear-handle. The vegetables he cooks in the kitchen—roots, stems, or leaves; all parts of the growing plant, in which have been stored some materials which can be made by proper treatment valuable as food. The way in which he makes them available by the application of heat involves more control of conditions already handled in simpler form in the primitive cooking he has experimented with.

Perhaps the chief value of this subject-matter comes out upon the side of its value as primitive social organization, developing to some extent parallel to the child's ability to effect like combinations in his class or among his playmates. The gradual change from very slight organization involved in the earliest processes proceeds by gradual steps to the more complicated processes of early civilization, which are complicated enough to tax the child's powers. The child must use this development of organization as a key to his own daily experience, otherwise upon this side, as well, could the subject-matter be looked upon as extraneous and forced from without. Spontaneously he has already begun to ask questions which show that he looks upon the world about him as having had a past in which things were done differently. Through this conscious use of his present in the reconstruction of this vague past, each occupation or process with which he comes in contact is given a hold upon his interest and imagination, through its suggestion of relation to other occupations past and present, which satisfies

his advancing intellectual interest. At this age, even in his play, mere activity no longer satisfies, and in place of mere activity and sensation he demands some end, some logical order of events. It is hoped that in the narration of method in more detail, this point of the child's consciousness of his present will be seen to have the place its importance demands, and the objection to the use of primitive life as too remote both in time and experience will be fully answered.

In the following narration of events and methods used, it is to be understood that the child's environment is that of the city child, set off from daily contact with primitive conditions and processes. Through his outing experiences in the summer he has come up against conditions which will afford a safe starting-point in the development of the primitive forms of man's chief needs of food, shelter, and clothing. It may perhaps be interesting to add here that, although in most cases where this work has been undertaken there has been a past experience of occupational work involved in the carrying on through the two preceding years of household, neighborhood, and simple typical modern occupations, yet it has also been found possible to use the same material with profit with children whose experience has been simply that of incidental contact with occupational life in city and country. The age at which it is advisable to begin work of this character, involving initiation on the part of the child, will differ with environment of children concerned. From some experience with children in very limited city environment of the slums it has been found that children two or even three years older begin to be capable of such initiation.

In characterizing a child of this age, one would say that his chief interest is in persons. As contrasted with the more isolated country child, his power of initiation socially is great. Even with older children or adults he feels quite equal to the situation socially, whereas on the side of manipulation of material he is usually quite helpless in initiating the simplest process. It seemed best, then, to meet this need of these particular children by beginning with the least complex conditions of food, shelter, and clothing, involving no social organization in its larger sense

at all. The child's general attitude of pleasure in activity seems to be all that is needed to stimulate his efforts and interest in investigating the nature of different foods, for example such as roots and nuts, with the view of ascertaining the proper method of preserving or cooking them; in fact, he seems to need no stimulation aside from contact with the materials themselves.

Because of this social attitude of the children, one of the problems in carrying out the use of this material educationally is to maintain the balance between the child's interest in the personnel of the story and his attitude toward the conditions presented as involving initiation and experiment on his own part. The work has been carried on in several different ways. One year the attempt was made to have the children as far as possible carry out in their school work the daily life of typical primitive peoples, without regard to the characters the children assumed as taking part in any continued story of events. Another year stories, such as the story of Abraham, were used as furnishing the thread in the carrying on of the primitive pastoral life. But as the result of evolution of the last three years, the following method has been found most successful. The children begin with the interest in the daily life of two persons. First the interest is only in the story; gradually the children identify themselves with the persons concerned, and their interest becomes more dramatic. The story is continued by the children, with occasional help from the teacher. The transition from one type of people to another is made through the contact, by trade or exploration, with other peoples in different physical surroundings. The use of story, like that of *The Story of Ab*, by Waterloo, has also succeeded. The story was read each day, and furnished the main thread for other similar stories invented by the children or teacher. The experience of the children seemed to furnish reason for choice of a more original method in one case, whereas the interest in the story in the book seemed greater in the other.

As has been stated, the children's summer outings furnish a background by the use of which it seems only too easy to give the child a sense of primitive conditions to be met in obtaining

food, shelter, and clothing. It is not difficult to give the child, by taking away one by one all his present comforts and necessities, a feeling first of helplessness and then of pleasure, in the effort to meet the difficulties of this imaginary environment. In reproducing this early struggle for existence, the sensational side of fear of animals, and of suffering from hunger and thirst, is passed over lightly. The story of the daily doings of a father, mother, and child furnishes instances and conditions out of which the problems of providing food and shelter arise. These first stages of arboreal life demand only the kind of narrative easily within the child's possibilities. One important factor in developing as far as possible the feeling that these events occurred in the remote past, is the proper appreciation of the child's own feeling of time. It may be said, speaking foolishly as an adult, that he has no sense of time, at least such time as is here involved; but his own life seems very long to him, and he gets the sense of remoteness most vividly as expressed in the lives, first, of his own immediate ancestors, and then of a long train of great-grandfathers. The changes which time and habit have made in the appearance of man himself, as well as the fact that the animal life of the time differed from the present, are continually used as helps in deepening this sense of time. Experimentation shows that this method is psychological. The attempt to produce this feeling of remoteness of time through summing up of natural changes in the landscape by the wearing away of streams and formation of valleys, or by the gradual alteration of climate through retreat or advance of an ice-sheet, fails signally, compared with the lively interest in following the development of the Eocene horse, the size of the fox, with four toes, through its various stages to the present solid-hoofed animal with which we are familiar. An illustration of the impression produced is given in the class story.

It is hardly relative to our purpose to gain more than a general sense of the duration and rate of the process of this evolution. That the children do gain a sense of time and a feeling for the existence of simpler conditions is also shown by the way in which they react to any slip made by one of their number

introducing a modern invention into a story of the past. The children very soon question the sources of our information concerning these early stages, and show great interest in all the ways in which men can reconstruct these primitive ages. Their interest in the anthropologist's discoveries, in the opening of ancient caves and kitchen-middens, was shown by their immediate use of this information to check the stories told by themselves or the teacher as to historical accuracy. For example, when they were discussing what foods the people used, and whether they cooked them at all or not, they would say: "We will have to guess that, because there is no way of finding that out from rocks and caves." But upon reflection they agreed that it would be easy to deduce the method of cooking by the character of the cracked and charred bones found in the *débris*. The pictures of animals scratched on the rocks by primitive man appeal to their artistic sense and prove quite an incentive to similar efforts on their own part.

As the story proceeds, in part told or read by the teacher and in part growing from suggestion and incident contributed by the children, it sometimes happens that the children have had so little contact with crude food materials that the larger proportion of time can profitably be spent in the actual handling and investigation of the ordinary properties of plants, stone, woods, etc., which would be very familiar to another set of children. It has occurred also, in taking up the topic of the chief needs of man, that the question of clothing and shelter had to be met before that of food was considered, as might well be the case with children who had never been hungry. The need for water, however, is always spontaneously mentioned first, for thirst still falls to the lot of every child. Under heading of food, the flesh of animals that they would kill is the first suggestion. It is only by making every possible connection through their own daily food, considered from the point of view of its natural state—as roots, stems, leaves, berries, and seeds—that one is able to build up gradually the idea of man's dependence, now as well as then, upon vegetable foods which are less exciting in the getting. When the need of clothing is reduced to a mini-

mun by the choice of a warm, equable climate, the children have mentioned ornament as the reason for possessing it. For the first forms of shelter and protection from enemies, trees and caves are inevitably suggested; just as inevitably, however, must the choice of the sophisticated city child—wigwams, tents, and brush huts—be rapidly swept away by the need to move freely in the search of food.

The advantage of fire as a means of protection is generally second to that of warmth or for cooking, but even here incidents of a wild animal's fear of fire have been found in some child's experience. The origin of fire, and of man's use of it, presents but little difficulty to their imagination. Curiously enough, lightning and fire of volcanic origin have often to be contributed by the teacher. The way in which the various inventions for the production of fire were taken up by the class is given here as an illustration of the kind of experimentation involved in all processes occurring in the process of their reconstruction of the story.

As friction as a source of heat has generally been a part of their past daily experience, only the connection between the heat from friction and the possibility of so increasing it as to produce fire is new. They are given strips of dry wood to rub together to recall the relation of heat to friction. They then state the fact that their problem is to make it great enough to produce fire. The method of procedure from this point varies, of course, with their past experience. Although they have seen fires made, perhaps many times, yet their lack of previous attempts to control conditions for themselves makes the interest in it rather concentrate upon merely the sensational sides—power and color of the flame, the volume of smoke, embers, sparks, and the glowing of the embers; and it is necessary to let them repeat the experience of making a fire, using modern means of kindling, many times, before they could even manipulate the easy modern conditions, because of this sensational interest getting in the way and interfering with their experimentation; so that very often this discussion of fire drills and invention of ways of making fire and preserving tinder must be left until later in their work.

If in their first attempts they formulate the idea that different materials require different amounts of heat to catch fire; that air is necessary, but must be limited in amount, as it is both servant and master, carrying away heat and yet necessary to combustion, and so helping and hindering, they are then ready to attack the problem of igniting tinder by the rubbing of two sticks together, and can at this point appreciate the fire-drill of the Mexicans, or any other method of producing fire by a friction of wood. The experimentation with fire is not dropped here, but carried on all through the year, in connection with some such processes as the actual roasting of food, melting of metals, or burning of pottery, in which process attention to the kind of fuel, kindling point, access of air, etc., is absolutely demanded.

Here in these later stages of experimentation the direct application to modern grates, furnaces, and different methods of heating can easily be made, whereas it would have been impossible to have used a modern furnace as a starting-point and basis for experimentation. In their own difficulties with the kindling of the open fire, even with the help of modern conveniences, they begin to realize the conditions met by the savage, in what seemed to them a very easy problem. This also brought to consciousness the problems involved, not only in the furnace and grate, but in the bringing of the coal from the coal mines to the city, the transportation to the house, as well as in the piping of the gas, manufactured and natural, as intelligible and interesting topics to the children. On one occasion, in the winter, the pressure of the gas was so low that their potatoes were not cooked for luncheon. Their remarks showed that they had a clear idea of the piping of the gas, and a few words of explanation as to the cause of the low pressure were easily understood.

The same method of approach and experimentation is followed with each problem. The interest in weapons is, of course, hardly second to that of fire. Sticks as clubs and stones as projectiles always come first on the list. Then the weighting of the sticks with sharp stones to make the war-club, the use of

slings to increase the efficiency of the thrown stone, are always forthcoming. The selection of stone for weapons involves the same kind of experimentation as that given in the case of fire. The interest which the children seem to show at this age in stones, merely for their smoothness, their color, or some other striking quality, is very easily directed into intelligent consideration of the qualities necessary for use as weapons. They soon learn to select stones with respect to friability, method of cleavage and hardness, just as previously they had been selecting for their own purposes, because of color, smoothness, shape, etc.

This interest once directed toward investigation of the appropriateness of this material for one use, carries over into a general interest in that material for its modern uses. To show this it may be mentioned that during the whole year the children were continually bringing stones to school, roughly classified as water-formed, sedimentary, crystalline, and fire-stones, or, as they learned the term, igneous rocks. They brought many observations as to the kind of stone used in building, and discovered for themselves the reasons for men nowadays making stone (cement) in preference to getting it from the earth's rock-bed. They formulate their own method of testing the stones they are to use for whatever purpose they have in mind. They always select slate in the beginning, as giving a delightfully sharp edge for a knife or any other weapon, and regretfully give it up on discovering its untrustworthy character, as it splinters against the hard wood which is their test material.

KATHERINE B. CAMP.

SCHOOL OF EDUCATION
Laboratory School.

[*To be continued.*]